AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) An intracellular mature virus (IMV) vaccinia virus particle having a targeted infection specificity towards target cells, wherein:

said IMV vaccinia virus particle infects said target cells;

said targeted infection specificity is conferred by the binding of at least one ligand moiety localized at the surface of said IMV vaccinia virus particle to an anti-ligand molecule localized at the surface of said target cells;

said at least one ligand moiety comprises an antibody fragment or a binding moiety of a normal cell surface receptor;

said antibody fragment or binding moiety of a normal cell surface receptor is fused to the N-terminus of the expression product of the vaccinia virus A27L gene so as to produce a chimeric polypeptide localized at the surface of said IMV vaccinia virus particle; ~~and~~

said anti-ligand molecule is selected from the group consisting of: a cell-specific marker, a tissue specific marker, a viral antigen, and a tumor-associated marker; and

said IMV vaccinia virus is selected from the group consisting of Copenhagen, Wyeth and Ankara modified (MVA) strains.

2-4. (Canceled).

5. (Previously Presented) The IMV vaccinia virus particle of claim 1, wherein:

said target cells are tumoral cells; and

said anti-ligand molecule is a tumor-associated marker.

6. (Previously Presented) The IMV vaccina virus particle of claim 1, wherein said ligand moiety comprises an antibody fragment that recognizes and binds to the MUC-1 antigen.

7. (Previously Presented) The IMV vaccina virus particle of claim 6, wherein said antibody fragment is the scFv fragment of the SM3 monoclonal antibody.

8–10. (Canceled).

11. (Previously Presented) The IMV vaccina virus particle of claim 1, wherein said ligand moiety further comprises a signal peptide that facilitates the insertion of said ligand moiety into the envelope of said IMV vaccina virus particle.

12. (Previously Presented) The IMV vaccina virus particle of claim 11, wherein said signal peptide further facilitates the translocation of said ligand moiety into the trans-Golgi network.

13. (Previously Presented) The IMV vaccina virus particle of claim 12, wherein said signal peptide is a signal peptide of the human trans-Golgi network glycoprotein TGN51.

14. (Previously Presented) The IMV vaccina virus particle of claim 1, wherein said IMV vaccina virus particle further comprises a nucleic acid of interest.

15. (Original) The IMV vaccina virus particle of claim 14, wherein said nucleic acid of interest is a suicide gene.

16. (Withdrawn) A vector comprising at least one nucleotide sequence encoding a chimeric protein comprising (i) at least an heterologous ligand moiety as defined in claim 1, and (ii) all or part of an homologous viral polypeptide naturally localized at the surface of a poxviral particle.

17. (Withdrawn) The vector of claim 16 wherein said homologous viral polypeptide is selected from the group consisting of the expression products of the A27L, L1R, A14L, A17L, D8L and H3L genes.

18. (Previously Presented) A composition comprising at least one IMV vaccina virus particle of claim 1 and a pharmaceutically acceptable vehicle.

19. (Withdrawn) A method for the treatment of a human or animal organism by gene therapy comprising administering an effective amount of the poxviral particle according to claim 1 to a human or animal in need of such treatment.

20. (Withdrawn) A method for the purification of a poxviral particle of claim 1 from a viral preparation containing both said poxviral particle and a wild type poxviral particle,

comprising the steps of binding said viral preparation to a solid support coated with an antiligand molecule capable of binding said heterologous ligand moiety and recovering said poxviral particle.

21. (Withdrawn) The method according to claim 20, wherein said binding step is performed by surface plasmon resonance on a dextran support.

22. (Withdrawn) The method according to claim 20, further comprising the step of infecting a permissive cell with said recovered poxviral particle.

23. (Withdrawn) The method according to claim 22, wherein said infection step is performed in the presence of EDTA.

24. (Previously Presented) The IMV vaccina virus particle of claim 1, wherein at least a portion of the expression product of the vaccinia virus A27L gene is removed and replaced by said ligand moiety.

25. (Previously Presented) The IMV vaccina virus particle of claim 1, wherein said ligand moiety is incorporated into the expression product of the vaccinia virus A27L gene.

26. (Previously Presented) The IMV vaccina virus particle of claim 1, wherein said anti-ligand molecule is overexpressed in said target cells or is a gene product of a cancer-associated virus.

27. (Previously Presented) The IMV vaccinia virus particle of claim 5, wherein said tumor-associated marker is selected from the group consisting of: a receptor for interleukin 2 (IL-2), a GRP (Gastrin Release Peptide), a TNF (Tumor Necrosis Factor) receptor, an epidermal growth factor receptor, a Fas receptor, a CD40 receptor, a CD30 receptor, a CD27 receptor, an OX-40, a Vv integrin, an angiogenic growth factor receptor, and a gene product of a cancer-associated virus.